

Abstract

Apparatus for producing silver nano-particle material comprises a furnace and a crucible positioned within the furnace, the crucible containing a quantity of precursor material, the furnace heating the quantity of precursor material contained in the crucible to vaporize the precursor material. A process gas supply operatively associated with the furnace provides a process gas to an interior region of the furnace. A conduit is operatively associated with the furnace so that an inlet end of the conduit is open to the interior region of the furnace. A particle separator system is operatively associated with an outlet end of the conduit. A pump operatively associated with an outlet end of the particle separator system causes a mixture of process gas and vaporized precursor material contained in the interior region of the furnace to be drawn into the inlet end of the conduit, the process gas cooling the vaporized precursor material to precipitate the silver nano-particle material in a carrier stream, the particle separator system separating the silver nano-particle material from the carrier stream.